Overview

Advantech Wireless A-Line Series antennas are designed and manufactured in batches with 6-meter Dual-shaped Compact Cassegrain all aluminum reflector antenna for VSAT applications in both C band (Model C3956T) and Ku band (Model K6T).

The A-Line Series C3956T and K6T models adopt a precision-formed reflector mounted on an Az over El pedestal providing necessary stiffness and pointing accuracy required in C and Ku band operation. It is provided with a feed with corrugated horn and OMT and is of optimized R.F. specifications, operates in circular or linear polarization selectable manually and meets any requirements of customers for particular applications.

The A-Line Series C3956T and K6T antennas meet the regulations of CCIR 580-4 and have been approved by ASIASAT, INTELSAT, CHINASAT, etc.

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A-Line Series 6m ANTENNA

Advantech Wireless

Antenna Specifications

R.F Specifications				
2 port feed	C-Band		Ku-Band	
	Receive	Transmit	Receive	Transmit
Frequency in GHz*	3.625-4.200*	5.850-6.425	10.95-12.75GHz	14.0-14.5GHz
Gain	46.6+20lg[f(GHz)/]	49.7+20lg[f(GHz)/6]	51.2	52.6
Antenna Noise Temp.				
10°Elevation	40K		65K	
20°Elevation	30K		50K	
40°Elevation	22K		41K	
Typical G/T at 20°El	28.4dB/k at 20 El with 35k LNA		34.8dB/k at 20 El with 70k LNA	
Sidelobe Pattern	First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-5 Recommendation			
Cross Pol. Discrimination	35dB (On axis) 30dB (within 1 dB Beamwidth)			
VSWR	1.3:1	1.3:1	1.3:1	1.3:1
-3 dB beamwidth	at 4GHz/6GHz		at 12GHz/14GHz	
	.81º	0.54º	0.27º	0.23º
Axial Ratio (CP only)	1.5	.75		
Feed Insertion or Ohmic Loss	0.20dB	0.20dB	0.35dB	0.35dB
Power Handling Capability	3 Kw cw		1 Kw cw	
Port to Port Isolation	85		85	
Feed Interfaces	CPR-229F	CPR-137F	WR75	WR75
NOTE: All values are at the rear feed output flange. * Antennas operational in C band 3.4--3.7GHz/ 6.424--6.725GHz or 3.4-- 4.2GHz /5.85--6.65GHz are available with optional for customer.				

R.F Specifications				
4 Port Linear/ Circular Pol.	C-Band		Ku-Band	
	Receive	Transmit	Receive	Transmit
Frequency in GHz*	3.625-4.2	5.850-6.425	10.95-12.75	14.0-14.5
Gain	46.5	49.6	55.3	56.4
Antenna Noise Temp.				
10°Elevation	45K		65K	
20°Elevation	35K		50K	
40°Elevation	27K		41K	
Typical G/T at 20°El	28.1 dB/K with 35K LNA		34.5 dB/k with 70K LNA	
Sidelobe Pattern	First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-5 Recommendation			
Cross Pol. Discrimination	35dB (On axis) 30dB (within 1 dB Beamwidth)			
VSWR	1.3:1 (LP) 1.25:1 (CP)	1.3:1 (LP) 1.25:1 (CP)	1.3:1	1.3:1
-3 dB beamwidth	1.29º	0.83º	0.44º	0.37º
Axial Ratio (CP only)	1.0dB	1.0dB		
Feed Insertion or Ohmic Loss	0.25dB	0.20dB	0.50dB	0.50dB
Power Handling Capability	3 Kw		1 Kw	
Port to Port Isolation Tx/Rx Rx/Rx, Tx/Tx	85dB 20dB (CP) 30dB(LP)		85dB 20dB (CP) 30dB(LP)	
Feed Interfaces	CPR-229F	CPR-137F	WR75	WR75
NOTE: All values are at the rear feed output flange. * The frequency range are Rx: 3.4-3.7GHz/Tx: 6.424-6.725GHz or Rx:3.4- 4.2GHz /Tx:5.85-6.650GHz optional. ** The other operational frequency bands of VSAT antennas can be of 10.95- 11.7GHz or 11.7-12.2GHz even extended as 10.95-12.75GHz. They are available with an option for customers when order.				

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A-Line Series 6m ANTENNA

Antenna Specifications

Mechanical Specifications	
Azimuth Travel	120°continuous (180°in two sector)
Elevation Range	0°to 90°continuous
Az and El Travel Rate	0.01°/second (with motor for ku band, option)
Polarization Travel	±90°
Reflector	Aluminium
Backup Structure	Steel
Pedestal Structure	Steel
Finish	
Reflector Surface	Aluminium panels with heat-diffusing white paint
Pedestal and Steel Structure	Sand blast and hot spray galvanized and two times paint
Surface Accuracy	0.5mm(RMS)
Foundation	5.0m x 5.0m x 0.7m
Antenna Drive Mode	Manual (Motorized drive optional)
Options	
	Motorized drive
Physical	
Ambient Temperature	-40°C to 60°C
Operational Wind	72km/h gusts to 97km/h
Survival Wind	200km/hm
Rain	Up to 100mm/h
Relative Humidity	Up to 100%
Solar Radiation	1000 kcal/M^2/h
Radial Ice (Survival)	25mm on all surface or 13mm on all surface with 130km/h wind gusts
Shock and Vibration	As encountered during shipment by commercial air, sea or truck
Corrosive atmosphere	As encountered in coastal regions and/or heavily industrialized areas
Seismic(Survival)	0.3G's horizontal 0.1G's vertical

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